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ABSTRACT

Developed by the Crystal Lake, Illinois, school district, this curriculum guide presents a series of suggested activities for an outdoor education program. Goals for the program are (1) development of scientific awareness through conservation education; (2) provision of opportunities for democratic living; (3) development of effective communication; (4) cultivation of appreciation of our heritage; (5) development of aesthetic, moral, and emotional maturity; and (6) cultivation of total fitness (social, physical, and emotional). Suggested follow-up discussion topics to the outdoor education activities are presented. A glossary of terms and a list of reference books and films are appended. RC 003 931 is a related document. (TL)

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A Curriculum Enrichment Guide

using

VETERAN ACRES

CRYSTAL LAKE

PARK DISTRICT

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INTRODUCTION

The little bulletin to which this statement serves as an introduction was a major effort of Norbert Ziemer in a course in Outdoor Teacher Education offered at Northern Illinois University's Taft Field Campus during the summer of 1966. In the course of preparing the bulletin, Mr. Ziemer culled the best and most appropriate ideas from hundreds of pages of materials gathered from all over the nation.

The Crystal Lake Schools are embarking on an intensified program in outdoor education. This bulletin should prove to be of great value to teachers throughout the school system.

It has been my great pleasure to work with teachers and administrators of the Crystal Lake schools in several capacities. It appears certain that their efforts to develop a program, using almost entirely local resources, will result in better education for children of the district. I commend all concerned.

George W. Donaldson
Taft Field Campus

FUTURE LAKE

E PLAN FOR VETERANS PARK

CRYSTAL LAKE PARK DISTRICT

CRYSTAL LAKE ILLINOIS

Specifically, the following things should be done in the classroom by the teacher before the field trip.

1. Introduce subject matter which can be supplemented or complemented by outdoor stu y.

2. Guide children in setting up a list of things to be learned on the trip.

3. Guide children in setting up good citizenship standards and in understanding and appreciating reasons for such standards.

4. Guide child in setting up safety rules boarding the bus, on the bus, and on the field trip.

Out-of-Door Experiences in the Curriculum

Children need knowledge and attitudes necessary to bring the world into an orderly pattern that can be understood, accepted, and controlled. We must make the most effective use of the child's natural tendency to explore, investigate, and experiment in the out-of-doors. We have unlimited opportunities to make the child aware of his responsibility to his environment.

The three equally important parts of any outdoor experience are: The pupil-teacher pre-planning, the direct experience, and the follow-up activity in the classroom.

I. Preparation

To make the experience a happy and interesting one for the children, the teacher must work and plan very carefully with the students. The teacher can guide them in setting up their own standards of behavior and the need for having these rules. When the children work on something they have planned, their attitude is quite different than when they have been told to do it.

II. Subject Matter Goals for Outdoor Education

1. Scientific Awareness

   The individual should have the opportunity to utilize the outdoors for direct and tangible experiences, where critical thinking occurs.

2. Conservation

   The individual should become aware of man's dependence and responsibility on his natural environment. The student can then identify, understand, and appreciate our natural resources and discover how and why we must use them wisely.

3. Democratic Living

   The individual should have the opportunity to participate in planning and activities with others-- experiences which will aid him in developing an awareness of the worth of the individual and the interdependence of all mankind.

4. Communication

   The individual should develop effective means for an interchange of thoughts and ideas through reporting and discussion, after extensive research and critical thinking.

5. Heritage

   The individual should cultivate an appreciation for and an awareness of the rich, natural, and historical heritage of the out-of-doors and its importance to our nation.

6. Aesthetic, moral, spiritual, and emotional maturity

   The individual should develop a feeling for beauty based on a close contact with nature, leading toward a refreshed spirit and greater creativity. He should develop a reverence for life that recognizes the importance of all living things.

7. Total Fitness

   The individual should develop attitudes and good practices of social, physical and emotional health.

Scientific Awareness

A. The Sun

   By hiking to various areas where there is evidence of the effects of different amounts of sunlight, observe the following:

   1. That some plants grow better in shade and some thrive in sunny areas.

   2. The process of photosynthesis

   3. The part the sun has in the water cycle.

   4. The effect of the sun on temperature and how the variations affect man and all life.

   5. The role of the sun in maintaining all forms of life.

B. The Earth and the Universe

   1. Study the effects of seasons on flora and fauna.

   2. Compare sunny slopes with shady slopes for effects on flora and fauna.

   3. Consider the differences that can be seen in the various life zones.

C. The Earth's Surface

   1. Hike to areas which show types and causes of erosion.

   2. Observe the terrain--flat areas, slopes, gullies. Establish an erosion demonstration area.

3. Discuss soil building and the everchanging earth surface.

4. Consider geological structures and their influence on man.

5. Examine the composition of various rocks and soil.

D. Climatic Conditions

1. Watch cloud formations and study weather instruments.

2. Observe and discuss the influences on growth in shady areas, on north slopes, and at various altitudes.

3. Relate topography to the climatic conditions.

E. Cycles (Example: plant cycle or plant succession)

1. Hike to areas where the existence of cycles can be seen, such as a prairie area (water cycle, plant cycle, man-plant-animal relationship).

F. Natural Balance

1. Point out examples of the influence of man, good and bad, on his environment and analyze the results.

2. Discuss predators and overpopulation

3. Observe changes in dead and decaying plant and animal life.

4. Consider the disease carrying capacity of the habitat.

5. Study various symbiotic relationships and discuss visible examples of interdependence.

6. Discuss man's role in the balance of nature. Why must man recognize that he is part of and subject to the balance of nature.

Conservation

A. Original Resources

1. Discuss how man depends on natural resources.

2. Relate the dependence of one area to another, even great distances away, and the effect of water cycles, wind conditions, etc.

3. Consider the interdependence of plants and animals and how man fits into the picture, with emphasis on renewable and non-renewable resources.

4. Observe the different ways various materials and living things are used in nature.

B. Man's Destruction of Resources

1. Visit areas where there is evidence that man has disrupted the natural balance in his environment, either through carelessness or greed. (Areas burned over, defaced by trash, showing erosion or destruction caused by man)

2. Discuss how balance which is disrupted by nature itself can be restored if man does not interfere; and how, though nature disturbs man, he must practice conservation and maintain the natural balance.

3. Study the effects of overpopulation in various areas (grasses, flowers, trees, or pond area). What is meant by succession.

Democratic Living

A. Personal Adjustment

1. Briefly review list of rules for manners on the trail, in the bus, etc. Stress need for cooperation.

2. Through observation and discussion, as circumstances occur, show how attitudes and behavior affect others; emphasize the responsibility the individual has to himself and others.

3. Offer experiences that will aid each child in developing an appreciation of his own personal worth.

Communication

A. Oral Expression

1. Offer experiences in large and small group discussions:

a. Planning the activities

b. Discussion on the hike or activity

c. Evaluation session

B. Creative Writing

1. Find in a natural environment a great variety of subject material for stories, poems, songs, plays, skits, and posters.

2. Be aware of experiences which will motivate the class toward further creative writing in the classroom.

C. Emotional Expression

1. Provide experiences in the communication of emotions or feelings through actions and expressions

2. Offer opportunities for children to understand how controlling emotional expression sometimes makes it easier to get along with others

D. Listening

1. Listen on hikes: to the wind, for bird calls, for animals, to water on the shore.

2. Compare lists compiled by different groups of sounds they heard.

3. Use the nature trail to develop listening skills.

4. Listen to stories or poems exchanged from one group to another.

E. Music

1. Accompany activities throughout the day with songs.
Include songs of the outdoors, patriotic songs, folk songs, etc.

2. Discuss folk music.

3. Relate to folk dancing in P.E.

F. Art

1. Utilize natural materials in making useful objects.

2. Develop individual interests and abilities.

3. Develop sound practices, attitudes, and appreciation of safety through using various art media.

4. Provide motivation to develop leisure time activities or hobbies.

HERITAGE

A. The heritage of our earth

1. Point out resources that men receive from nature.

2. Emphasize our dependence on living things which came from our earth.

B. The heritage from our forefathers and other peoples

1. Discuss Indians and the pioneers of this area. Early settlers, industries, etc.

2. Learn songs about our heritage. Relate to social studies where possible.

3. Study the heritage of our nation through the flag ceremony.

C. Our Responsibility to the Future

1. Discuss the background of Veteran Acres. (property, the name, the acquisition)

2. Consider how this natural area can best be preserved and perpetuated.

3. Consider ways in which each individual can contribute to conservation.

4. Explore methods of good conservation.

5. Find examples of faulty or poor conservation practices and discuss how they might be improved.

AESTHETICS

A. Appreciation

1. Discuss the beauty found in nature.

2. Involve all the senses to enjoy the aesthetic experiences in the out-of-doors.

3. Feel the thrill of discovery and insight.

4. Reap the inner reward of a job well done.

TOTAL FITNESS

A. Social

1. Offer opportunities for a class to understand the need for safety as an individual and as a group member.

2. Develop an appreciation of social courtesies. Through cooperation, planning, working, and sharing.

B. Physical

1. Participate in wholesome exercise.

2. Learn and practice safe use of tools.

3. Learn about outdoor hazards and how to avoid them.

4. Learn proper conduct on buses.

5. Know where to go and what to do in case of an emergency or illness.

6. Wear proper clothing.

TOTAL FITNESS

C. Emotional

1. Provide opportunities for enjoying the outdoors in a relaxed, tension-free environment.

2. Develop an appreciation for new groups or friendships which arouse out-of-door experiences or projects.

3. Offer experiences that will give impressions of the beauty of the out-of-doors.

4. Encourage greater appreciation of personal worth.

III The Follow-up to Outdoor Experiences

For many children the value of the field trip or any outdoor experience will be quite limited without considerable follow-up work. It could take the form of questions, discussions, sharing observations, or additional research.

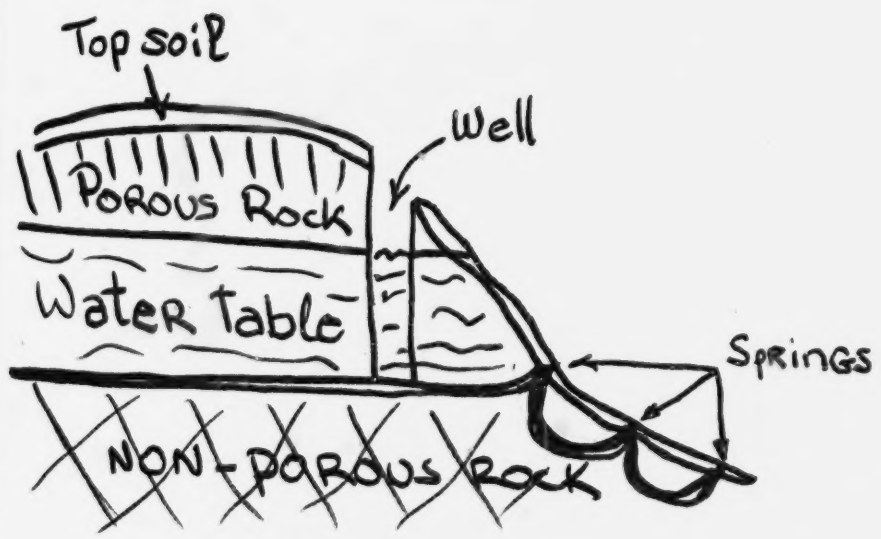
The classroom teacher's creativity and ingenuity are the key to the success of the follow-up activities. Gains obtained depend largely on the classroom teacher's skill in taking advantage of the stimulated interests and to strengthen and supplement such learnings. These outdoor experiences may enrich or vitalize reading, clarify math, provide material for creative writing, arts and crafts or music.

The following list of suggested topics are a clue as to where you might like to start.

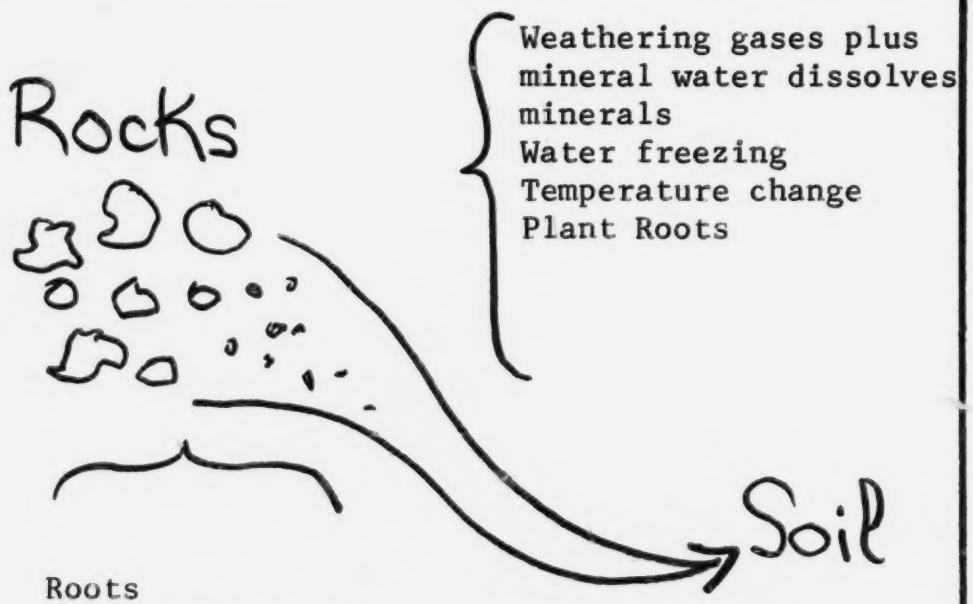
Suggested Discussion Topics

1. What is conservation?
2. How is soil conserved?
3. How is fertility improved?
4. How do soils compare in their ability to hold water?
5. Why do we protect wildlife?
6. Why is water important to us?
7. What can we do for preservation of our scenic beauty?
8. What is a "balance of nature"?
9. What are our natural resources?
10. How are soils formed?
11. What are sources of water?
12. How do some plants become pioneers?
13. How do earthworms help to build soil?
14. What is soil?
15. What is a watershed?
16. How are plants adopted for survival?
17. What are the enemies of the forest?
18. How are animals adapted for survival?
19. What is erosion?
20. Why is the soil the basis of all life?
21. How is the surface of the earth changing constantly?
22. How does climate affect life?
23. What is the water cycle?
24. What is oxygen-carbon dioxide cycle?
25. Why and how is photosynthesis important?
26. What is meant by accepting responsibility?
27. Why should we respect the rights of others?
28. What do we mean by "working together for a common cause"?
29. What is the meaning of "a place for everything, everything in its place"?
30. Why is courtesy important?
31. Why do we have rules?

32. Why do we abide by group decisions?
33. Why are good attitudes important?
34. How are mountains made?
35. Why is the ocean salty?
36. Which animals are found in Veteran Acres?
37. Why are the animals there?
38. Which stories are found in rocks?
39. How do pioneer plants help us?
40. Is man important?
41. How does man cooperate with nature?
42. What is the "web of life"



THE FORMATION OF A SPRING



Rocks changing to soil

Renewable

Water
Lumber
Wildlife

Non-Renewable

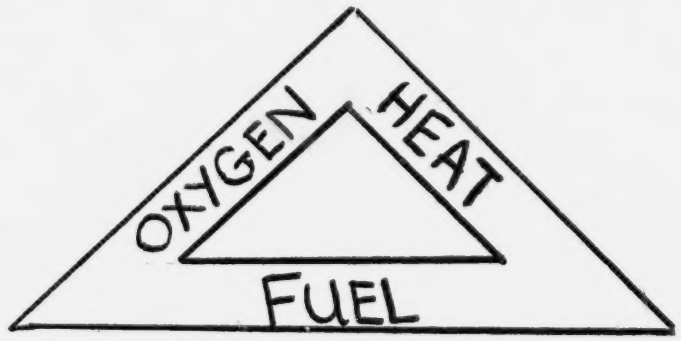
Metals
Petroleum Products

What can man do to assure that these will be available

1. How can man best utilize the remaining supply?

2. What can he use to replace them?

NATURAL RESOURCES



O + H + F = Fire

Remove any one to extinguish the fire triangle.

GLOSSARY

The following terms are frequently used in Outdoor Education. The particular definitions are those which have specific application in outdoor science and conservation.

Algae - simple, usually aquatic plants without true roots, stems, or leaves. Almost all of them contain chlorophyll and thus are able to produce their own food. (Kelp is an example)

Amphibian - A lowerform of vertebrate ("cold blooded") without scales, feathers, fur, or hair that have functional gills in the early stage of development. Most are aquatic as young and terrestial as adults.

Astronomy - The scientific study of heavenly bodies and their motions.

Canopy - An overhanging screen, as of treetops, which forms the forest ceiling.

Chlorophyll - The green coloring material of plants which is essential to food manufacturing (photosynthesis) in plants.

Clay - A very find powdery earth, chiefly formed from feldspar in the decomposition of granite.

Climate - Average weather conditions of an area over a period of years.

CO_2 and O_2 Cycle - The interchange of carbon dioxide and oxygen between animals and plants.

Community - A group of living organisms having mutual relationships among themselves and to their environment.

Conifers - A group of evergreen shrubs and trees bearing true cones, such as pines, firs, etc.

Conservation - The wise and proper use of resources for the benefit of the most people.

Contaminate - To pollute, or make impure, often used on connnection with water.

Deciduous - Falling off -- used to describe shrubs and plants which shed all of their leaves seasonally, (usually in the fall).

Duff - The partly decayed vegetable matter on the forest floor.

Earthquake - Sudden slippage or movements of the earth's crust.

Ecology - Science of the relation of living things to the environment.

Environment - All external conditions affecting the life of plants and animals.

Erosion - The wearing away of earth and rock by various agents or forces (as water, air, and temperature changes.)

Fern - A primitive plant, feather-like in appearance.

Faulting - Formation of surface features, including mountains, as the result of movement along fault lines or "breaks" in the earth's surface.

Filter - To remove solid particles or impurities from water as it passes through porous soil.

Geology - The study of the structure and history of the earth.

Gneiss - A metamorphic rock, generally made up of bands which differ in color and texture.

Granite - An igneous rock composed chiefly of feldspar and quartz, usually with one or more other minerals.

Humidity - The moisture content of the atmosphere at a given time

Humus - The organic portion of the soil; black or brown material formed by partial decomposition of vegetable or animal matter.

Insect - Small invertebrate animals which in the adult stage have three body parts. (Three body parts, three pairs of legs and usually wings.)

Lichen - A composite plant consisiting of an algae and a fungus living together in a mutually beneficial relationship.

Mineral - A non-organic chemical element or compound occurring naturally. Not vegetable or animal.

Moss - A simple flowerless green plant which grows in moist places.

Natural Resources - Resources provided by nature (water, soil, sunshine, minerals, etc.)

Organic - Pertaining or derived from living organisms.

Parasite - A plant or animal living in, on, or with another living organism from which it obtains food or shelter.

Photosynthesis - A process by which green plants produce food in the presence of sunshine.

Pollen - The male reproductive dust from the stamen.

Predator - An animal that consumes dead organic material

Soil - The finely divided mineral material containing organic matter, water, and air on the earth's surface capable of supporting plant life.

Symbiosis - The living together in close association of two dissimilar organisms. Usually used to indicate a mutually beneficial relationship.

Water Cycle - A cycle involving accumulation, evaporation, condensation, and precipitation of water.

Water Shed - A region or area drained by a stream or river.

Weather - The condition of the atmosphere of a given time and place, regarding temperature, moisture, cloudiness, etc.

Hopefully, some of the books are available at each school library. Ask around, chances are some teacher in your school has some or one of them.

1. Smith, Julian W. et al. Outdoor Education. Englewood Cliffs, N. J. Prentice-Hall, Inc. 1963

2. Hug, John W. and Wilson, Phyllis J. Curriculum Enrichment Outdoors Evanston: Harper and Row, Publishers, 1965.

3. Hammerman, Donald R. and Hammerman, Wm. M. Teaching in the Outdoors Minneapolis: Burgess Publishing Company, 1964.

4. Van Der Smissen, Betty and Goering, Osward H. Nature Oriented Activities Ames, Iowa, The Iowa State University Press, 1965.

Additional Library Reference Suggestions

Wherry, Edgar, The Fern Guide Doubleday and Co. Inc. Garden City, N. Y.

Wherry, Edgar, Wild Flower Guide Doubleday and Co. Inc. Garden City, N. Y.

Pough, Richard, Audubon Western Bird Guide Doubleday & Co. Inc. Garden City, N. Y.

Morgan, Ann Haven, Field Book of Ponds and Streams G. P. Putnam Sons, N. Y.

Benson, Sally, Stories of the Gods and Heroes Dial Press, N. Y.

Wyler, Rose, The First Book of Science Experiments Franklin Watts, Inc. N.Y. 22, N. Y.

Swezey, Kenneth, Science Shows you How , McGraw-Hill Book Co., N. Y.

Rogers, Frances, Lens Magic Lippincott Co., N. Y.

Clemons, Elizabeth, Tide, Pools and Beaches Random House, N. Y.

Mason, George, Animal Tools, Wm. Morrow & Co., N. Y.

Raskin, Edith, Watchers, Pursuers and Masqueraders, McGraw Hill Book Co. N. Y.

Kettlekamp, Larry, Shadows Wm. Morrow and Co., N. Y.

Films on Outdoor Education

"TheBig Adventure", 14min. S.B. & W. Conservation Ed. Section, Dept. of Natural Resources, State Office Bldg. No. 1. Sacramento, Calif.

"The Window" 20 min. S.C. National Audubon Society, Photo & Film Dept. 1130 Fifth Ave. New York, 28, N. Y.

"This Is Your Land" Cook County Film, Forest Preserve Dist. 536 N. Harlem Ave. River Forest, Illinois.

"Wisdom Grows Outdoors" 22 min. S.B. & W. Mich. Dept. of Conservation, Film Loan Service, Lansing 26, Mich.

"Schooltime in Camp" 20 min. S.C. N.I.U. DeKalb, Illinois A.V. 5E101.

"Education Moves Outdoors" N.I.U. DeKalb, Illinois rE502, 18 min. Color.

"Outdoor Education in Cook County" Cook Co. Film, Forest Preserve District, 536 N. Harlem Ave. River Forest, Illinois.

"Just Beyond the Chalkboard," N.I.U. DeKalb, Illinois (to be released)